

## CLAIMS:

1. A polymeric stratified-phase-separated composite comprising a film of a liquid, a layer of a polymerized material covering the film of liquid and supporting members formed of the polymerized material and extending from the layer of polymerized material through the film of liquid, the polymeric stratified-phase-separated composite being provided, with its film of liquid side, on a substrate surface having in accordance with a predetermined pattern selected first and second regions, the first regions being functionalized for selective accumulation of the polymerized material and the second regions being functionalized for selective accumulation of the liquid, wherein the supporting members extend selectively onto the selected first regions.
- 10 2. A polymeric stratified-phase-separated composite as claimed in claim 1 wherein the selected first and second regions are regions of high and low affinity, respectively, for polymerizable material from which the polymerized material of the supporting members is obtained.
- 15 3. A polymeric stratified-phase-separated composite as claimed in claim 2 wherein the regions of high affinity are functionalized with chemically reactive groups and the regions of low affinity are not so functionalized, and regions of the supporting members are functionalized with chemically reactive groups, and chemically reactive groups of the substrate surface and the supporting members having reacted with one another to form covalent bonds.
- 20 4. A polymeric stratified-phase-separated composite as claimed in claim 1, 2 or 3 wherein the first and second regions are functionalized for facilitating a high and low rate of polymerization respectively.
- 25 5. A polymeric stratified-phase-separated composite as claimed in claim 4 wherein the high and low rate of polymerization is facilitated by means of a low and high concentration of polymerization inhibitor respectively.

6. A polymeric stratified-phase-separated composite as claimed in claim 1, 2, 3, 4 or 5 wherein the polymeric stratified-phase-separated composite is a photo-polymeric stratified-phase-separated composite.

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7. A polymeric stratified-phase-separated composite as claimed in claim 1, 2, 3, 4, 5 or 6, wherein the supporting members are formed as walls partitioning the film of liquid into a plurality of separate liquid-filled pockets.

10 8. A polymeric stratified-phase-separated composite as claimed in claim 1, 2, 3, 4, 5, 6 or 7 wherein the liquid is a liquid crystal.

15 9. A polymeric stratified-phase-separated composite as claimed in claim 8 wherein the substrate surface is, on a side facing the film of liquid, provided with an alignment layer.

10. A liquid crystal display comprising a polymeric stratified-phase-separated composite as claimed in claim 8 or 9.

20 11. A method of manufacturing a polymeric stratified-phase-separated composite comprising a film of a liquid, a layer of polymerized material covering the film of liquid and supporting members formed of polymerized material and extending from the layer of polymerized material through the film of liquid onto selected first regions of a substrate surface, the method comprising:

25 - providing a substrate surface having, in accordance with a predetermined pattern, selected first and second regions, the first regions being functionalized for selective accumulation of the polymerized material and the second regions being functionalized for selective accumulation of the liquid;

- providing onto the substrate surface, a layer of polymerizable stratified-phase-30 separable material;

- obtaining the polymeric stratified-phase-separated composite from the polymerizable stratified-phase-separable material by inducing polymerization of the polymerizable stratified-phase-separable material at least at locations where the layer of polymerizable stratified-phase-separable material is adjacent to the first regions.

12. A method as claimed in claim 11 wherein the polymerizable stratified-phase-separable material is photo-polymerizable.

5 13. A method as claimed in claim 12 wherein the photo-polymerization is induced by means of a flood exposure.